WHAT IS CLAIMED IS:

1. A method of designing rubber composite comprising the steps of:

tentatively selecting a shape of the rubber composite, a shape of each part (i) constituting the rubber composite and physical properties of a rubber material used for each part (i) respectively;

dividing the rubber composite into many finite elements and calculating strain in each element by the finite element method to obtain maximum principal strain $(\varepsilon_i)_{max}$ of the elements in each part (i);

repeating the tentative selections of the shape of the rubber composite, the shape of each part (i) and the physical properties of the rubber material and the calculations by the finite element method until an allowance ratio S_{ia} calculated as a ratio of strain $(\varepsilon_i)_b$ at break to the maximum principal strain $(\varepsilon_i)_{max}$ becomes equal to a specified reference allowance ratio S_0 or higher in all of the parts (i); and

determining the shape of the rubber composite, the shape of each part (i) and the physical properties of the rubber material.

2. A method of designing rubber composite, comprising the steps of:

tentatively selecting a shape of the rubber composite, a shape of each part (i) constituting the rubber composite and physical properties of a rubber material used for each part (i) respectively;

dividing the rubber composite into many finite elements, and calculating stress in each element by the finite element method to obtain maximum principal stress $(\sigma_i)_{max}$ of the elements in each part (i);

repeating the tentative selections of the shape of the rubber composite, the shape of each part (i) and the physical properties of the rubber material

and the calculations by the finite element method until an allowance ratio S_{ib} calculated as a ratio of stress $(\sigma_i)_b$ at break to the maximum principal stress $(\sigma_i)_{max}$ becomes equal to a specified reference allowance ratio S_0 or higher in all of the parts (i); and

determining the shape of the rubber composite, the shape of each part (i) and the physical properties of the rubber material.

3. A method of designing rubber composite, comprising the steps of:

tentatively selecting a shape of the rubber composite, a shape of each part (i) constituting the rubber composite and physical properties of the rubber material used for each part (i) respectively;

dividing the rubber composite into many finite elements, and calculating strain energy in each element by the finite element method to obtain density $(\Pi_i)_{max}$ of maximum strain energy of the elements in each part (i);

repeating the tentative selections of the shape of the rubber composite, the shape of each part (i) and the physical properties of the rubber material and the calculations by the finite element method are repeated until an allowance ratio S_{ic} calculated as a square root of a ratio of density $(\Pi_i)_b$ of strain energy at break to the maximum strain energy density $(\Pi_i)_{max}$ becomes equal to a specified reference allowance ratio S_0 or higher in all of the parts (i); and

determining the shape of the rubber composite, the shape of each part (i) and the physical properties of the rubber material.

4. The method of designing the rubber composite according to any one of claims 1, 2 and 3,

wherein the reference allowance ratio S_0 is set in a range of 9 to 30.

5. The method of designing the rubber composite according to any one of claims 1, 2 and 3,

    wherein the rubber composite is a pneumatic tire.

6. The method of designing the rubber composite according to claim 4,

    wherein the rubber composite is a pneumatic tire.